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(56) Documents Cited by ISA
FR 002725896 A US 5939078 A
Cosmetics & Toiletries Vol. 99, No. 3, 1984, pages
109-117 PAJ Abstract & JP 090202710 A & US 5939078

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(71) Applicant(s)

SKW Trostberg Aktiengesellschaft
(Incorporated in the Federal Republic of Germany)
Dr. Albert-Frank-Strasse 32, D-83308 Trostberg,
Federal Republic of Germany

(74) Agent and/or Address for Service

Bout Wode Tenant
Verulam Gardens, 70 Gray's Inn Road, London,
WC1X 8BT, United Kingdom

(72) Inventor(s)

Christian Gloxhuber
Bernd Mertschenk

(54) Abstract Title

Creatine and/or creatine derivatives used as cosmetic preparations containing moisturizers

(57) The invention relates to a cosmetic preparation containing creatine and/or creatine derivatives as moisturizers.

GB 2 357 970 A

Cosmetic preparations comprising creatine and/or
creatine derivatives as humectant(s)

Description

5

The present invention relates to the use of creatine and/or creatine derivatives as humectant(s) (moisturizer(s)) in cosmetic preparations.

10 Preparations in cream, gel or liquid form which, for cosmetic purposes, can be applied topically, but also orally and then systemically, in most cases comprise humectants, so-called moisturizers. Use of these humectants firstly ensures a continually stable
15 consistency and applicability of the respective cosmetics, which is particularly important in the case of the very wide variety of creams. Secondly, the humectants also contribute to a certain feeling of well-being because of the cooling effect which arises
20 [sic] from the diverse cream and gel preparations during their use.

The aim of the vast majority of cosmetic preparations is to have a positive effect on the condition and the
25 appearance of the skin.

The condition and appearance of the skin are greatly affected by ageing processes. Namely, with increasing age, the colloidal state of the proteins, for example
30 of collagen, changes in a manner such that the water-binding capacity decreases and the tissue turgor is reduced. A consequence of this is atrophic changes, which manifests itself in particular in an increased formation of wrinkles and increased dryness, in
35 particular of the upper layers of the skin, such as the stratum corneum. The increased symptoms associated with the said changes, such as flakiness, lead overall to a worsened appearance of the surface of the skin.

However, the surface of the skin is changed not only as a result of ageing processes, but also as a result of a number of external influences. For example, in general, environmental influences and weathering, but also 5 extreme washing and removal of grease from the skin, such as e.g. the frequent use of solvents, cause an increased drying out of the skin with chapping and flaking. In this respect, age-induced changes in the skin and also changes caused by external influences can 10 add up.

In order to counteract these processes which take place on the surface of the skin, the skin by nature provides mechanisms which are referred to as natural 15 moisturizing factors. Known representatives of these factors are urea and certain amino acids, such as glycine and arginine, which are found naturally on the surface of the skin.

20 These naturally occurring substances are aided in modern skincare compositions - as already mentioned - by so-called moisturizers. These humectants, some of which are synthetic, such as polyols, glycerol, sorbitol, ethoxylated phenols and hydrolyzed proteins

25 can have a favourable effect on skin roughnesses which are age-induced and/or caused by external influences in the sense that the skin gains a smoother and more supple surface.

30 A disadvantage of numerous synthetic humectants is their often inadequate stability, primarily over relatively long periods of time, which, particularly at extreme temperatures, leads to the breaking of the emulsions, which has an adverse effect, particularly on 35 cream-like O/W emulsions.

The object of the invention is then to provide a humectant (moisturizer) for cosmetic preparations which ensures stable preparations, is natural in origin or

nature-identical, is, moreover, readily accessible and which does not suggest any side effects with regard to health on the basis of its composition.

5 This object was achieved by the use of creatine and/or creatine derivatives as humectant(s) for cosmetic preparations.

Surprisingly, such as chapping and flaking in the case 10 of the practical use of creatine or suitable derivatives thereof, it was established that not only are the desired stable cosmetic preparations obtained therewith, but also that the symptoms of dry skin, such as chapping and flaking, can be eliminated permanently, 15 or these phenomena can even be prevented. Furthermore, the use according to the invention can also have a positive effect on the body's own energy balance in the sense that deeper layers of the hypodermis also experience a lasting tightening, which could not have 20 been foreseen to this extent.

Creatine is a natural compound occurring as a known 25 energy store primarily in muscle tissue, which is non-toxic, is catabolized by the kidneys to give creatinine, which is found in urine, and, moreover, when applied locally, has very good compatibility, as experimental investigations have shown. It is also known that creatine is able to bind 23 ml of water per gram (cf. Neumann: creatinabol [sic] study).

30 For the purposes of the present invention, creatine monohydrate has proven particularly suitable and is therefore preferred; however, creatine derivatives, for example in salt form, such as the preferred creatine 35 ascorbate, are also very highly suitable. In this connection, it is possible to use all suitable creatine derivatives also as mixtures with one another, but also combined with further suitable humectants, such as, for example, the known natural "moisturizing" factors.

The use of creatine (derivatives) as humectant(s) in cosmetic preparations has proven particularly advantageous also because additive effects, but also 5 some times synergistic effects, can be achieved using the suitable creatine compounds.

For these particular application cases, the invention provides for the use of the creatine and/or suitable 10 derivatives thereof preferably in creams, such as day and night creams, gelatinous or liquid preparations, the latter being particularly preferably face tonics, lotions and suspensions. The creatine and/or creatine derivative can also be packed in liposomes for these 15 and the other preparation forms. This form is preferred if reactions with other components of the preparation are to be avoided.

In cases of a purely external application, the creatine 20 component(s) according to the invention is (are) preferably used in amounts of from 0.5 to 10% by weight, particularly preferably in an amount of from 1 to 5% by weight, in each case based on the total preparation.

25 The invention is also suitable for oral administration of the creatine-containing preparations. The preferred preparation forms, which have no further humectants, such as powders, drageés, tablets, pastilles, capsules, 30 liposomes or liquids, should in this connection permit the intake of the creatine component in an amount which does not exceed a daily dose of 10 g; a daily dose of from about 4 to 6 g is recommended.

35 According to a further embodiment of the invention, suitable creatine components are used in preparations for external or internal application in combination with further physiologically active constituents. Preference is given here to antioxidants such as, for

example, ascorbic acid, vitamins, such as α -tocopherol acetate, trace elements or/and sunscreens.

5 The use according to the invention of creatine and/or derivatives thereof resulted in, in the case of oral intake of the corresponding cosmetic preparations, water being stored within the body, but primarily in the deeper layers of the skin, as a result of which particularly persistent wrinkles can be smoothed and
10 the development of new wrinkles can be prevented. In the case of local and in most cases superficial application of the creatine-containing preparations according to the invention, the main phenomenon of dry skin, skin flaking, in particular, is repressed and the
15 superficial formation of wrinkles is avoided.

20 The appropriately formulated creatine-containing preparations permanently improve primarily the elastic properties, in particular of stressed skin, making them suitable for numerous cosmetic applications, which may also extend beyond the traditional fields of skin cosmetics, for example in shampoos, hair tonics, mouthwashes and gurgles, lipsticks, make-up formulations, hand and foot baths, and concealing
25 creams etc.

Examples

Skin care composition based on an O/W (oil-in-water) cream.

5

Ingredients:	% by weight
	15.0
Paraffin oil, subliquid	
Creatine monohydrate	4.0
Capryl capric acid triglyceride	4.0
Cetyl alcohol	3.0
Vaseline	3.0
Glycerol	3.0
Glycerol monostearate	2.0
Octyl dodecanol	2.0
Hydrogenated coconut fat	2.0
Cetyl phosphate	0.4
Sodium hydroxide	q.s.
Perfume oil	q.s.
Preservative	q.s.
Water, demineralized	ad 100.0

q.s. = quantum satis

Claims

1. Cosmetic preparation comprising creatine and/or creatine derivatives as humectant(s) 5 (moisturizer(s)).
2. Preparation according to Claim 1, characterized in that it comprises creatine monohydrate and creatine ascorbate as creatine (derivatives). 10
3. Preparation according to Claims [sic] 1 or 2, characterized in that it comprises one or more further humectants. 15
4. Preparation according to any of Claims 1 to 3 as cream, gelatinous or liquid formulation.
5. Preparation according to Claim 4 as liquid 20 formulation in the form of face tonic, lotion or suspension, in each case with or without a content of liposomes.
6. Preparation according to any of Claims 1 to 5, 25 characterized in that the creatine component is present in an amount of from 0.5 to 10% by weight, based on the total preparation.
- 30 7. Preparation according to Claim 6, characterized in that it comprises 1 to 5% by weight of the creatine component.
- 35 8. Preparation according to Claim 1 or 2 as formulation to be administered orally.
9. Preparation according to Claim 8, characterized in that

it comprises creatine component in an amount such that 10 g per daily dose are not exceeded.

10. Preparation according to either of Claims 8 and 9
5 in the form of powder, dragée, tablet, pastille, capsule or liquid formulation.

11. Preparation according to any of the preceding claims,

10 characterized in that
it comprises the creatine and/or creatine derivative packed in liposomes.

12. Preparation according to any of the preceding
15 claims,

characterized in that
it comprises further physiologically active constituents, in particular antioxidants, vitamins, trace elements and sunscreens.

20 13. Use of creatine and/or at least one creatine derivative as humectant for a cosmetic preparation.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 99/06670

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K7/48

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 12, 25 December 1997 (1997-12-25) & JP 09 202710 A (KAO), 5 August 1997 (1997-08-05) abstract & US 5 939 078 A (KAO) 9 March 1999 (1999-03-09)	1
P.A	FR 2 725 896 A (SEDERMA) 26 April 1996 (1996-04-26) claims 1,10	1
A	US 5 091 171 A (R. J. YU ET AL) 25 February 1992 (1992-02-25) claims 1,2; examples 4,25,27	1
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
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X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

6 document member of the same patent family

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo rd.
Fax: (+31-70) 340-3016

Authorized officer

Voyiazoglou, D

INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	K. SAKAMOTO: "The development of two new moisturizing ingredients" COSMETICS & TOILETRIES, vol. 99, no. 3, 1984, pages 109-117, XP000571951 table I	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inte. l. onal Application No

PCT/EP 99/06670

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
JP 09202710 A	05-08-1997	US	5939078 A	17-08-1999
FR 2725896 A	26-04-1996	NONE		
US 5091171 A	25-02-1992	AT	130187 T	15-12-1995
		AU	701962 B	11-02-1999
		AU	3311095 A	15-02-1996
		AU	660917 B	13-07-1995
		AU	5913990 A	21-02-1991
		CA	2019273 A	15-02-1991
		DE	69023574 D	21-12-1995
		DK	413528 T	11-03-1996
		EP	0413528 A	20-02-1991
		EP	0671162 A	13-09-1995
		ES	2081936 T	16-03-1996
		GR	3018157 T	29-02-1996
		MX	9203653 A	01-09-1992
		US	5702688 A	30-12-1997
		US	5547988 A	20-08-1996
		US	5827882 A	27-10-1998
		US	5670542 A	23-09-1997
		US	5674899 A	07-10-1997
		US	5643961 A	01-07-1997
		US	5648395 A	15-07-1997
		US	5643962 A	01-07-1997
		US	5643952 A	01-07-1997
		US	5656665 A	12-08-1997
		US	5677339 A	14-10-1997
		US	5650436 A	22-07-1997
		US	5637615 A	10-06-1997
		US	5643953 A	01-07-1997
		US	5654340 A	05-08-1997
		US	5677340 A	14-10-1997
		US	5674903 A	07-10-1997
		US	5716992 A	10-02-1998
		US	5648391 A	15-07-1997
		US	5652267 A	29-07-1997
		US	5650437 A	22-07-1997
		US	5656666 A	12-08-1997
		US	5648388 A	15-07-1997
		US	5650440 A	22-07-1997
		US	5670543 A	23-09-1997
		US	5643963 A	01-07-1997
		US	5690967 A	25-11-1997
		US	5684044 A	04-11-1997
		US	5681853 A	28-10-1997
		US	5561158 A	01-10-1996
		US	5554597 A	10-09-1996
		US	5834510 A	10-11-1998
		US	5942250 A	24-08-1999
		US	5654336 A	05-08-1997
		US	5385938 A	31-01-1995
		US	5883128 A	16-03-1999